

CLAIMS

1. A temperature measuring apparatus of a thermocouple type comprising:

a member formed of a high melting point metal carbide; and

a member formed of carbon system material,

wherein said member formed of a high melting point metal carbide; and said member formed of carbon system material are connected, and the connected portion serves as a temperature measuring portion.

2. The temperature measuring apparatus of a thermocouple type according to claim 1, wherein both said member formed of a high melting point metal carbide and said member formed of carbon system material have a rod-like portion, and an end of said member formed of a high melting point metal carbide and an end of said member formed of carbon system material are connected using a connecting member formed of either material of said member formed of a high melting point metal carbide or said member formed of carbon system material to serve as a temperature measuring portion.

3. The temperature measuring apparatus of a thermocouple type according to claim 2, wherein the end of said member formed of a high melting point metal carbide is formed with an external thread, and said connecting member is formed with an internal thread to provide a thread connection therebetween.

4. The temperature measuring apparatus of a thermocouple type according to claim 1, wherein said member formed of a high melting point metal carbide is rod-like, said member formed of carbon system material is pipe-like with a bottom, and said member formed of a high melting point metal carbide is inserted into said member formed of carbon system material and connected at the bottom to serve as a temperature measuring portion.

5. The temperature measuring apparatus of a thermocouple type according to claim 4, wherein the end of said member formed of a high melting point metal carbide is formed with an external thread, and the bottom of said member formed of carbon system material is formed with an internal thread to provide a thread connection therebetween.
6. The temperature measuring apparatus of a thermocouple type according to claim 1, wherein said high melting point metal carbide is carbide of either one kind of tungsten, tantalum, titanium, hafnium, niobium, or zirconium.
7. The temperature measuring apparatus of a thermocouple type according to claim 6, wherein said high melting point metal carbide is WC.
8. The temperature measuring apparatus of a thermocouple type according to claim 6, wherein said high melting point metal carbide is TaC.
9. The temperature measuring apparatus of a thermocouple type according to claim 6, wherein said high melting point metal carbide is TiC.
10. The temperature measuring apparatus of a thermocouple type according to claim 6, wherein said high melting point metal carbide is HfC.
11. The temperature measuring apparatus of a thermocouple type according to claim 6, wherein said high melting point metal carbide is NbC.
12. The temperature measuring apparatus of a thermocouple type according to claim 6, wherein said high melting point metal carbide is ZrC.
13. The temperature measuring apparatus of a thermocouple type according to claim 1, wherein said carbon system material is graphite.
14. The temperature measuring apparatus of a thermocouple type according to claim 1, wherein said member formed of high melting point metal carbide is produced by covering a high melting point metal rod material with carbon powder, and the entirety is compressed in a high

temperature condition to carbonize it.

15. The temperature measuring apparatus of a thermocouple type according to claim 1, wherein the outer circumferential portion of said member formed of high melting point metal carbide is ground, and the end thereof is formed with an external thread by supersonic process or discharge process.

16. A method for producing the temperature measuring apparatus of a thermocouple type of claim 1, wherein a high melting point metal rod material is covered with carbon powder, and the entirety is compressed in a high temperature condition to carbonize the high melting point metal rod material to thereby produce the member formed of a high melting point metal carbide.

17. A method for producing the temperature measuring apparatus of a thermocouple type of claim 4, wherein the outer circumferential portion of the member formed of high melting point metal carbide is ground, the end is formed with an external thread by the supersonic process or discharge process, an internal thread is formed on a bottom of the member formed of carbon system material, and the apparatus is formed into a thermocouple type by connecting the external thread and the internal thread.